

Post-traumatic stress, psychological needs and empathy among professional and family caregivers

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ABSTRACT

Aims: The aim of this study is to examine the effects of post-traumatic stress disorder (PTSD), psychological needs, and empathy (EMP) on burnout (BRN) levels among professional and family caregivers.

Methods: The study sample consists of a total of 379 participants, including 197 professional caregivers and 182 family caregivers. Participants were selected using the snowball sampling method. Data were collected using the PTSD checklist for DSM-5 (PCL-5), the Toronto Empathy Questionnaire, the Basic Psychological Needs Scale, the Maslach Burnout Inventory (MBI), and a Socio-Demographic Information Form. The study was conducted using a relational survey model, and structural equation modeling (SEM) was employed to examine both direct and indirect effects.

Results: The SEM findings revealed that PTSD had a significant direct effect on BRN, which was partially mediated by psychological needs and EMP. Notably, the mediating role of empathy was more pronounced in the professional caregiver group, where the direct effect of PTSD on BRN dropped by nearly 49% after accounting for EMP and psychological needs. In contrast, this reduction was only 15% among family caregivers, suggesting that professional caregivers are more vulnerable to BRN due to EMP-driven mechanisms. Additionally, the indirect effects were also statistically significant. These findings suggest that unmet psychological needs and high levels of EMP may contribute to increased BRN among caregivers.

Conclusion: The findings revealed that both psychological needs and EMP play a partial mediating role in the relationship between PTSD and BRN. As caregivers' levels of EMP increase, they may become more vulnerable to BRN. Addressing unmet psychological needs and promoting balanced EMP are considered important for protecting the mental health of both professional and family caregivers.

Keywords: Post-traumatic stress, psychological needs, empathy, burnout

INTRODUCTION

Post-traumatic stress disorder (PTSD) is defined in the diagnostic and statistical manual of mental disorders, fifth edition (DSM-5) as a disorder that develops following direct exposure to or witnessing traumatic events such as severe injury, death or threat of death, and sexual assault. The DSM-5 describes the effects of traumatic life events through symptoms such as intrusive thoughts, avoidance behaviors, changes in mood, hypervigilance, and lasting alterations in core beliefs about oneself and the world.¹

However, the impact of a traumatic event is not limited to those who directly experience it. Research has shown that even individuals who acquire information about a traumatic event may exhibit similar symptoms.¹ In this regard, one of the risk factors contributing to PTSD susceptibility is working with trauma survivors. Given their exposure to traumatic narratives, mental health professionals are at risk of developing secondary traumatic stress symptoms.²

Another high-risk group for PTSD is family caregivers. Parents of children with special needs may perceive threats to their child's well-being and family stability, leading to experiences reported as traumatic.³

This social exclusion can result in unmet psychological and physical needs for caregivers. Ceylan⁴ highlights that meeting individuals' basic psychological and physical needs is essential for mental well-being, as failure to do so may lead to psychological distress. One of the key aspects shaping individuals' perceptions of life and meaning is the fulfillment of psychosocial needs.⁵ These needs include social interaction, satisfaction from relationships, emotional bonding, autonomy, security, recreation, and the freedom to make independent choices.⁶

Given the demanding responsibilities of caring for a child with special needs, caregivers may struggle to meet their own psychological and social needs. The literature suggests that meeting caregivers' needs has a positive effect on their

mental health, whereas unmet needs can contribute to burnout (BRN) by negatively affecting both thought.⁷ In the early stages, BRN was defined as a decrease in employees' respect for and dedication to their work, resulting in exhaustion.⁸ Later, it was stated that families caring for children with special needs experience a similar situation.⁹ In this regard, the literature indicates that families of children with special needs have high levels of BRN. Similarly, some professional groups may also struggle to fulfill their psychological needs. As seen, both caregiving professionals and family caregivers are at risk.¹⁰ Bakır et al.¹¹ stated in their study that helping professionals are at risk for BRN. When considering both families and professional groups, it can be seen that social support and empathy (EMP) play a significant role.¹² If these factors are not experienced in a balanced way, they may create a risk factor. EMP is a holistic process that has a positive impact on the quality of life.¹³ It includes the ability to see events from another's perspective, helping, sharing, and social sensitivity.¹⁴

Based on this, Yalom's perspective that "therapy is the meeting of two people, one of whom is in greater distress than the other" forms the foundation of this research. From a professional standpoint, psychologists, therapists, and other caregiving professionals are individuals who provide psychological support while also being indirectly affected by trauma. Similarly, family caregivers are also at psychological risk. This study suggests that both groups are exposed to trauma, may struggle to meet their psychological needs, and may experience BRN due to excessive EMP. Therefore, the study aims to examine the common psychological experiences of these two groups and provide guidance on protective factors.

Research hypotheses

H1: There is a significant positive relationship between PTSD and BRN.

H2: There is a significant positive relationship between PTSD and EMP.

H3: Psychological needs mediate the relationship between PTSD and BRN.

H4: EMP mediates the relationship between PTSD and BRN.

METHODS

Ethics

The study was approved by the İstanbul Nişantaşı University Ethics Committee (Date: 21.03.2025, Decision No: 2025/03). All procedures were conducted by the ethical standards of the Declaration of Helsinki. Informed consent was obtained from all participants.

Study Design and Participants

This research was conducted using the relational survey model and analyzed through structural equation modeling (SEM). SEM is a method used to examine structural relationships between latent variables.¹⁵ The research sample consists of 379 participants, including 197 professional caregivers working in private institutions (psychologists, psychiatrists, psychiatric nurses, special education teachers etc.). 182 family caregivers providing care for individuals with autism spectrum disorder, Down syndrome, or intellectual disabilities (**Table 1**). Participants were selected using the snowball sampling method. Initially, professional caregivers were contacted, and through their referrals, family caregivers were reached.

Table 1. Distribution of demographic characteristics of participants

		Professional caregiver group		Family caregiver group	
		n	%	n	%
Gender	Woman	156	79.2	129	70.9
	Male	41	20.8	53	29.1
Age range	22-30 years old	111	56.3	24	13.2
	31-40 years	41	20.8	63	34.6
	41-50 years	29	14.7	66	36.3
	51-60 years	16	8.1	29	15.9
Education status	High school	0	0.0	80	44.0
	University	84	42.6	59	32.4
	Master's Degree/Doctorate	113	57.4	43	23.6
Your occupation or relationship with your carer	Health worker (doctor, nurse, psychologist, social worker, etc.)	197	100.0	0	0.0
	Family carer (child, elderly, chronic patient, special needs individual care)	0	0.0	182	98.4
Occupation/year of caregiving	0-1 year	52	26.4	15	8.2
	2-5 years	58	29.4	44	24.2
	6-10 years	28	14.2	35	19.2
	11 years and over	59	29.9	88	48.4
Psychological support/therapy	Yes	99	50.3	86	47.3
	No	98	49.7	96	52.7
Average hours of operation/maintenance	1-4 hours	74	37.6	55	30.2
	5-8 hours	86	43.7	63	34.6
	9+ hours	37	18.8	64	35.2
Total		197	100.0	182	100.0

Data Collection

Sociodemographic information form: The form, developed by the researcher, includes seven questions about participants' gender, age, education level, daily caregiving/work hours, and whether they receive psychological support.

PTSD checklist for DSM-5 (PCL-5): The PTSD checklist (PCL-5) was developed by Weathers et al.¹⁶ to assess PTSD symptoms based on DSM-5 criteria. It consists of 20 items on a 5-point Likert scale, with total scores ranging from 0 to 80. The scale results are evaluated in two ways: 1. The total score is calculated, providing information about PTSD symptom severity. The cut-off score is 33. In another approach, scoring is based on DSM-5 diagnostic criteria, and items rated 2 or higher are included in the calculation. Boysan et al.¹⁷ conducted the Turkish adaptation, validity, and reliability study of the scale. The clinical cut-off score is 47. The cut-off score for the general population is 48. Cronbach's Alpha reliability coefficient was reported as 0.96.

Maslach Burnout Inventory (MBI): The MBI was developed by Maslach & Jackson. The scale adapted into Turkish by Ergin.¹⁹ The scale consists of 22 items and has three subscales.

1. Emotional exhaustion
2. Depersonalization
3. Personal accomplishment^{18,19}

Additionally, Duygun²⁰ modified the scale by replacing work-related terms with child-related terms (e.g., changing "my job" to "my child" and "my child's care"), making it applicable for family caregivers. Cronbach's Alpha reliability coefficient was reported as 0.80.

Toronto Empathy Questionnaire (TEQ): The TEQ was developed by Spreng et al.²¹ and consists of 16 items. The Turkish adaptation was conducted by Totan et al.,²² resulting in a version with 13 items. In the adaptation study, the factor loadings ranged between 0.40 and 0.67.

Basic Psychological Needs Scale (BPNS): The BPNS was developed by Deci and Ryan⁶ and adapted into Turkish by Kesici et al.²³ The scale consists of 21 items. Gagne (2003) later made minor modifications to assess the fulfillment of basic psychological needs in daily life. It is a five-point Likert-type scale. The scale includes three subdimensions: autonomy need, competence need, relatedness need.

Statistical Analysis

In this section, the mediating role of psychological needs and EMP variables in the relationship between posttraumatic stress level and BRN in professional and family caregivers is examined. In this context, a two-stage SEM was created in order to understand the relationships between the variables in more depth and based on theoretical foundations. This model not only tests the relationships between the variables, but also aims to explain the effects of mediating variables on these relationships.

In the first stage, the validity of the measurement tools used in the study on the sample was tested through the measurement model including confirmatory factor analysis and the construct validity of the scales was evaluated. In this direction, the theoretical appropriateness of the model and the factor structures of the measurement instruments were examined. In the second stage, the structural model was created and the direct and indirect effects between the variables were

analyzed. (Table 2, 3). All data analyses were performed using IBM SPSS Statistics 27 and LISREL 8.51 software. Prior to the analysis, skewness and kurtosis coefficients were examined to assess the suitability of the distribution characteristics of the measurement tools for parametric analysis (Table 4). This evaluation was taken into consideration as a basic prerequisite in terms of ensuring the suitability of the data set for normal distribution. The findings are presented in detail in the following section.

Table 2. Path coefficients for the structural model (professional caregiver group)

Path	Standardised β	t
PTSD→ NS	-0.46	-5.94
PTSD→ EMP	-0.33	-2.56
NS→ BRN	-0.30	-3.56
EMP→ BRN	-0.34	-4.29
PTSD→ BRN (c' path)	0.24	2.88

PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout

Table 3. Path coefficients for the structural model (family caregiver group)

Path	Standardised β	t
PTSD→ NS	-0.20	-2.39
PTSD→ EMP	-0.18	-2.28
NS→ BRN	-0.23	-3.22
EMP→ BRN	-0.26	-3.72
PTSD→ BRN (c' path)	0.46	5.90

PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout

Table 4. Kurtosis and Skewness coefficients of PTSD, NS, EMP, BRN variables

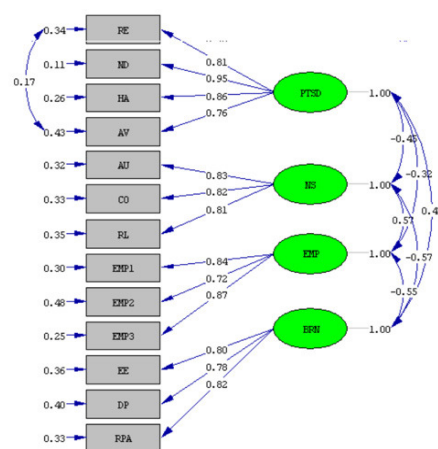
Latent and observed variables	Professional caregiver group		Family caregivers group	
	Kurtosis	Skewness	Kurtosis	Skewness
PTSD				
RE	-0.34	0.44	-0.05	0.54
ND	-0.63	0.34	-0.46	0.37
HA	-0.56	0.46	-0.33	0.40
AV	-0.96	0.26	-0.33	0.55
NS				
AU	0.01	0.22	0.86	0.51
CO	0.29	0.42	0.95	0.40
RL	-0.22	0.41	0.45	0.33
EMP				
EMP1	1.26	-1.15	-0.84	-0.27
EMP2	1.74	-1.34	-1.04	-0.55
EMP3	-0.18	-0.70	-1.06	-0.34
BRN				
EE	-0.45	0.47	-0.23	0.41
DP	-0.05	0.70	1.50	1.23
RPA	-0.08	0.42	-1.21	-0.07

PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout, RE: Re-experiencing, HA: Hyperarousal, AV: Avoidance, AU: Autonomy, CO: Competence, RL: Relatedness, EE: Emotional exhaustion, DP: Depersonalization, RPA: Reduced personal accomplishment

RESULT

The assumptions of normality were evaluated before conducting the SEM. As shown in **Table 4**, the skewness and kurtosis values for all observed variables in both the professional and family caregiver groups were within the ± 2 range, indicating that the data approximated a normal distribution (**Table 4**). Based on the data presented above, an analysis of the gender distribution shows that in the professional caregiving group, 79.2% (n=156) of the participants were female and 20.8% (n=41) were male. In comparison, the familial caregiving group consisted of 70.9% females (n=129) and 29.1% males (n=53). Regarding age distribution, 56.3% (n=111) of professional caregivers were between the ages of 22–30, 20.8% (n=41) between 31–40, 14.7% (n=29) between 41–50, and 8.1% (n=16) between 51–60. In contrast, 13.2% (n=24) of familial caregivers were aged 22–30, 34.6% (n=63) aged 31–40, 36.3% (n=66) aged 41–50, and 15.9% (n=29) aged 51–60. With respect to educational background, 42.6% (n=84) of the professional caregivers held an undergraduate degree and 57.4% (n=113) held a graduate degree (master's/PhD), with no participants having only a high school education. Conversely, in the familial caregiving group, 44.0% (n=80) had a high school diploma, 32.4% (n=59) held an undergraduate degree, and 23.6% (n=43) had completed graduate education. Regarding occupational status, 100.0% (n=197) of the professional caregiving group were healthcare professionals (e.g., doctors, nurses, psychologists, social workers, etc.), whereas 98.4% (n=182) of the familial caregivers provided care to a family member, such as a child, elderly person, chronically ill individual, or someone with special needs. In terms of years of caregiving experience, 26.4% (n=52) of the professional caregivers had been in the field for 0–1 year, 29.4% (n=58) for 2–5 years, 14.2% (n=28) for 6–10 years, and 29.9% (n=59) for 11 years or more. Among familial caregivers, 8.2% (n=15) had been providing care for 0–1 year, 24.2% (n=44) for 2–5 years, 19.2% (n=35) for 6–10 years, and 48.4% (n=88) for more than 11 years. With respect to receiving psychological support, 50.3% (n=99) of professional caregivers reported having previously received psychological support, while 49.7% (n=98) had not. In the familial caregiving group, 47.3% (n=86) stated they had received support, while 52.7% (n=96) had not. Regarding average daily caregiving hours, 37.6% (n=74) of professional caregivers provided care for 1–4 hours per day, 43.7% (n=86) for 5–8 hours, and 18.8% (n=37) for more than 9 hours. In the familial caregiving group, 30.2% (n=55) provided care for 1–4 hours, 34.6% (n=63) for 5–8 hours, and 35.2% (n=64) for more than 9 hours per day (**Table 1**). Following this, confirmatory factor analyses (CFA) were conducted to test the measurement model for both groups. The standardized factor loadings for PTSD, need satisfaction (NS), EMP, and BRN were all above .70, demonstrating strong construct validity (**Table 4**). Among professional caregivers, the latent construct PTSD was strongly represented by the observed variables Re-experiencing (RE=.81), negative alterations in cognition and mood (NACM=.95), hyperarousal (HA=.86), and avoidance (AV=.76). Similarly, the latent variable NS was significantly explained by autonomy (AU=.83), competence (CO=.82), and relatedness (RL=.81). The construct EMP was indicated by three observed parcels: EMP1=.84, EMP2=.87, and EMP3=.72. Lastly, the BRN construct was represented by high loadings on EE=.81, DP=.88, and RPA=.85. These results confirm that all observed variables demonstrated sufficiently strong factor loadings, indicating that the latent constructs were validly and reliably measured across both participant groups (**Figure 1, 2**).

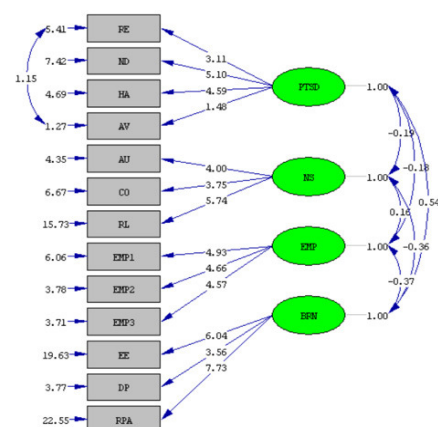
Lastly, the latent variable BRN was strongly associated with emotional exhaustion (EE=.80), depersonalization (DP=.78), and reduced personal accomplishment (RPA=.82). For participants providing familial caregiving, the measurement model revealed similarly high factor loadings. The latent construct PTSD was represented by RE=.80, NACM=.90, HA=.80, and AV=.88. The NS construct was again well explained by AU=.89, CO=.82, and RL=.82. The EMP latent variable was strongly indicated by EMP1=.89, EMP2=.92, and EMP3=.92. Lastly, the BRN construct was represented by high loadings on EE=.81, DP=.88, and RPA=.85. These results confirm that all observed variables demonstrated sufficiently strong factor loadings, indicating that the latent constructs were validly and reliably measured across both participant groups (**Figure 1, 2**).



Chi-Square=126.91, df=58, P-value=0.00000, RMSEA=0.078

Figure 1. Measurement model findings of PTSD, NS, EMP, BRN variables (professional caregiver group)

PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout, RE: Re-experiencing, HA: Hyperarousal, AV: Avoidance, AU: Autonomy, CO: Competence, RL: Relatedness, EE: Emotional exhaustion, DP: Depersonalization, RPA: Reduced personal accomplishment



Chi-Square=88.25, df=58, P-value=0.00639, RMSEA=0.054

Figure 2. Measurement model findings of PTSD, NS, EMP, BRN variables (family caregivers group)

PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout, RE: Re-experiencing, HA: Hyperarousal, AV: Avoidance, AU: Autonomy, CO: Competence, RL: Relatedness, EE: Emotional exhaustion, DP: Depersonalization, RPA: Reduced personal accomplishment

Subsequently, the structural model was tested to examine the direct and indirect effects among the variables. In the professional caregiver group, PTSD significantly and negatively predicted NS ($\beta=-0.46$, $t=-5.94$) and EMP ($\beta=-0.33$, $t=-2.56$) (**Table 2**). Both mediators were negatively associated

with BRN (NS: $\beta=-0.30$, $t=-3.56$; EMP: $\beta=-0.34$, $t=-4.29$). The direct effect of PTSD on BRN remained significant but was reduced from $\beta=0.47$ to $\beta=0.24$ after including the mediators, indicating a partial mediation (Table 2, Figure 3).

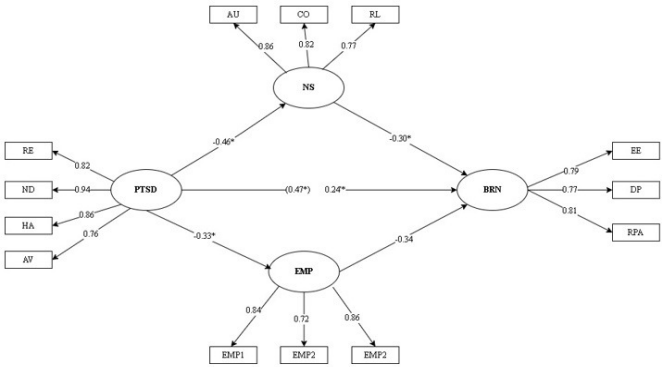


Figure 3. Standardized factor loadings of the structural model (professional caregiver group)
PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout, RE: Re-experiencing, HA: Hyperarousal, AV: Avoidance, AU: Autonomy, CO: Competence, RL: Relatedness, EE: Emotional exhaustion, DP: Depersonalization, RPA: Reduced personal accomplishment

A similar pattern was observed in the family caregiver group. PTSD negatively predicted NS ($\beta=-0.20$, $t=-2.39$) and EMP ($\beta=-0.18$, $t=-2.28$), which in turn significantly predicted BRN (NS: $\beta=-0.23$, $t=-3.22$; EMP: $\beta=-0.26$, $t=-3.72$) (Table 3). The direct effect of PTSD on BRN decreased from $\beta=0.54$ to $\beta=0.46$ after including the mediators, again suggesting partial mediation (Table 3, Figure 4).

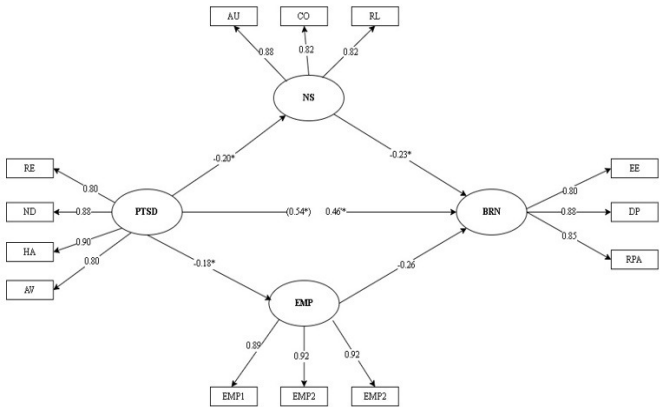


Figure 4. Standardized factor loadings of the structural model (family caregivers group)
PTSD: Post-traumatic stress disorder, NS: Need satisfaction, EMP: Empathy, BRN: Burnout, RE: Re-experiencing, HA: Hyperarousal, AV: Avoidance, AU: Autonomy, CO: Competence, RL: Relatedness, EE: Emotional exhaustion, DP: Depersonalization, RPA: Reduced personal accomplishment

Goodness-of-fit indices were examined to evaluate model adequacy. As shown in Table 5, both the measurement and structural models yielded acceptable or good fit indices for both groups (e.g., CFI=.96-.98, RMSEA=.05-.09), supporting the overall validity of the SEM analyses.

DISCUSSION

When examining the findings related to the SEM constructed with the variables PTSD, NS, EMP, and BRN, it was observed that the direct effect of PTSD on BRN was initially $\beta=0.47$ before the inclusion of mediating variables. However, upon incorporating NS and EMP into the model as mediators, this direct effect decreased to $\beta=0.24$, indicating that the mediators played a meaningful role within the structural model. Yücel and Akoğlu²⁴ found that in mental health professionals, the avoidance, arousal, and emotional violation subdimensions of secondary traumatic stress significantly predicted occupational BRN, explaining 37% of the variance in the outcome variable. It is also stated that working with traumatic cases poses a risk for both stress and BRN.²⁵

PTSD, NS, EMP, and BRN, it was observed that the direct effect of PTSD on BRN was initially $\beta=0.54$ before the inclusion of the mediating variables. However, after incorporating NS and EMP as mediators into the model, this direct effect decreased to $\beta=0.46$, indicating that the mediating variables played a significant role in the structural model. Providing care for individuals with serious illnesses is also associated with stress and BRN.²⁶ Additionally, parents of children with disabilities often experience depression and BRN.¹²

Moreover, the t-value associated with the direct effect of PTSD remained statistically significant ($\beta=0.46$, $t=5.90$, $p<.05$), confirming the persistence of a meaningful direct relationship. Based on these findings, it was concluded that NS and EMP functioned as partial mediators in the relationship between PTSD and BRN. The analysis of the indirect effect also revealed statistical significance ($\beta=0.08$, $SE=0.03$, $t=2.76$), suggesting that the impact of PTSD on BRN is partially transmitted through the mediating effects of NS and EMP.

The literature indicates that identifying with individuals who have experienced trauma can lead to vicarious trauma, while empathetic engagement may help reduce the risk of BRN.²⁷ However, some studies suggest that EMP itself can contribute to trauma symptoms.²⁸ Although EMP is generally considered a positive trait, when experienced at high levels,

Table 5. Goodness of fit values of measurement model and structural model						
Index	Professional caregiver group				Family caregiver group	
	Normal fit	Acceptable compliance	Measurement model	Structural model	Measurement model	Structural model
χ^2/SD	<2	<5	2.19	2.67	1.52	1.52
AGFI	>.90	>.80	.86	.85	.88	.89
GFI	>.90	>.85	.91	.89	.93	.93
IFI	>.95	>.90	.96	.93	.98	.98
CFI	>.95	>.90	.96	.93	.98	.98
NFI	>.95	>.90	.92	.90	.95	.95
RMSEA	<.05	<.10	.08	.09	.05	.05
SD: Standard deviation						

it can intensify stress and may also trigger an individual's own past traumatic experiences. The literature indicates that psychological needs predict traumatic stress symptoms, with autonomy need having a negative impact of 38%.²⁹ The limited amount of time that parents are able to allocate for themselves often prevents them from meeting even their most basic self-care needs.³⁰ Individuals who experience intense EMP may neglect their own needs, leading to BRN as their personal resources diminish over time. Conversely, BRN itself can reduce EMP capacity over time.

Limitations

This study is limited to the information measured by the scales used. Since the study data were collected using self-report scales, clinical interviews could not be conducted. This study includes certain caregiving professional groups and families of children with specific differences.

CONCLUSION

The findings revealed that both psychological needs and EMP play a partial mediating role in the relationship between PTSD and BRN. As caregivers' levels of EMP increase, they may become more vulnerable to BRN. Addressing unmet psychological needs and promoting balanced EMP are considered important for protecting the mental health of both professional and family caregivers. Therefore, interventions that support caregivers' psychological well-being should aim to meet their core needs and encourage healthy empathic engagement in order to reduce the risk of BRN.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was approved by the İstanbul Nişantaşı University Ethics Committee (Date: 21.03.2025, Decision No: 2025/03).

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

REFERENCES

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-5. Köroğlu E, çeviren. 5. baskı. Ankara: Hekimler Yayın Birliği; 2013.
- Zara A, İzöz FJ. Türkiye'de ruh sağlığı alanında travma mağdurlarıyla çalışanlarda ikincil travmatik stres. *Klin Psikiyatr*. 2015;18(1):15-23.
- Uğuz Ş, Toros F, İnanç BY, Çolakkadıoğlu O. Zihinsel ve/veya bedensel engelli çocukların annelerinin anksiyete, depresyon ve stres düzeylerinin belirlenmesi. *Klin Psikiyatr*. 2004;7(1):42-47.
- Ceylan R, Aral N. An examination of the correlation between depression and hopelessness levels in mothers of disabled children. *Soc Behav Pers*. 2007;35(7):903-908. doi:10.2224/sbp.2007.35.7.903
- Çivitiçi DDA. Üniversite öğrencilerinde genel yaşam doyumu ve psikolojik ihtiyaçlar arasındaki ilişkiler. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*. 2012;2(2):321-336.
- Deci EL, Ryan RM. The what and why of goalpursuits: human needs and the self-determination of behaviour. *Psychol Inq*. 2000;11:319-338. doi: 10.1207/S15327965PLI1104_01
- Lin C. Culture shock and social support: an investigation of a Chinese student organization on a US campus. *J Intercult Commun Res*. 2006;35: 117-137. doi:10.1080/17475750600909279
- Freudenberger HJ. Staff burn-out. *J Soc Issues*. 1974;30(1):159-165. doi: 10.1111/j.1540-4560.1974.tb00706.x
- Tunç S, Özkardaş O. Otizmlı çocuğu olan annelerde algılanan sosyal desteğin anksiyete ve ebeveyn tükenmişliği üzerindeki etkisi. *Soc Sci Res J*. 2020;9(4):247-253.
- Çınar Y. Psikolojik danışmanların tükenmişlik düzeyleri ve problem çözme becerilerinin incelenmesi. [Yayımlanmamış yüksek lisans tezi]. Ankara: Gazi Üniversitesi; 2016.
- Bakır B, Özer M, Özcan CT, Çetin M, Fedai T. The association between burnout, and depressive symptoms in a Turkish military nurse sample. *Bull Clin Klinik Psychopharmacol*. 2010;20(2):160-163. doi:10.1080/10177833.2010.11790651
- Taşçıoğlu C. Çalışma psikolojisi. *J Econ Cult Soc*. 2018;57:275-279. doi: 10.26650/JECS423436
- Klis M, Kossewska J. Empathy in the structure of personality of special educators. *Reports-Research*. 1996;1:143-148.
- Garton AF, Gringar E. The development of a scale to measure empathy in 8-and 9-year old children. *Aust J of Educ Dev Psychol*. 2005;5:17-25.
- Kline RB. Principles and practice of structural equation modeling. Guilford Press; 2016.
- Weathers FW, Litz BT, Keane TM, et al. The PTSD checklist for DSM-5 (PCL5). Scale available from the National Center for PTSD; 2013.
- Boysan M, Guzel Ozdemir, P, Ozdemir O, Selvi Y, Yilmaz E, Kaya N. Psychometric properties of the Turkish version of the PTSD Checklist for diagnostic and statistical manual of mental disorders, (PCL-5). *PsychiatryClin Psychopharmacol*. 2017;27(3):300-310. doi:10.1080/24750573.2017.1342769
- Maslach C, Schaufeli WB, Leiter PM. Job burnout. *Annu Rev Psychol*. 2001;52:397-422. doi:10.1146/annurev.psych.52.1.397
- Ergin C. Doktor ve hemşirelerde tükenmişlik ve Maslach tükenmişlik ölçeği'nin uyarlanması. 7. ulusal psikoloji kongresi bilimsel çalışmaları 1992.
- Duygun T. Zihinsel engelli ve sağlıklı çocuk annelerinde stres belirtileri stresle başa çıkma tarzları ve algılanan sosyal desteğin tükenmişlik düzeyine olan etkisi. [Yüksek lisans tezi]. Ankara: Ankara Üniversitesi; 2001.
- Spreng RN, Kinnon CM, Mar RA, Levine B. The Toronto Empathy Questionnaire: scale development and initial validation of a factor-analytic solution to multiple empathy measures. *J Pers Assess*. 2009;91(1): 62-71. doi: 10.1080/00223890802484381
- Totan T, Doğan T, Sapmaz F. The Toronto Empathy Questionnaire: evaluation of psychometric properties among Turkish university students. *Eurasian J Educ Res*. 2012;46:179-198.
- Kesici Ş, Üre Ö, Bozgeyikli H, Sünbül AM. Temel psikolojik ihtiyaçlar ölçeğinin geçerlik ve güvenirliği. VII. Ulusal PDR Kongresi Bildiri Özetleri Kitabı, Malatya, 2003.
- Yücel B, Akoğlu B. Secondary traumatization in mental health workers. *Psikiyatride Güncel Yaklaşımlar*. 203;15(Supplement 1):383-393. doi:10.18863/pgy.1327170
- Yıldırım MH, İçerli L. Tükenmişlik sendromu: Maslach ve Kopenhag tükenmişlik ölçeklerinin karşılaştırmalı analizi. *Organizasyon ve Yönetim Bilimleri Dergisi*. 2010;2(1):123-131.
- Kebapçı A, Akyolcu N. Acil birimlerde çalışan hemşirelerde çalışma ortamının tükenmişlik düzeylerine etkisi. *Tr J Emerg Med*. 2011;11(2):59-67. doi:10.5505/1304.7361.2011.43827
- Özcan CT, Oflaz F, Çiçek H. Empathy: the effects of undergraduate nursing education in Turkey. *Int Nurs Rev*. 2010;57:493-499. doi:10.1111/j.1466-7657.2010.00832.x
- Figley CR. Treating compassion fatigue. Brunner Routledge: New York. 2002.

29. Katip C. Travma sonrası stres bozukluğu belirtileri, temel psikolojik ihtiyaçlar, irrasyonel inanışlar ve duygudurum arasındaki ilişkinin incelenmesi [Yayımlanmamış yüksek lisans tezi]. İstanbul: Maltepe Üniversitesi; 2021.
30. Akoğlu B. Özel gereksinimi olan çocuğa sahip ailelerde psikolojik sağlamlık üzerine sistematik bir derleme. *JHWB*. 2022;7(13):47-56. doi: 10.32739/usmut.2022.7.13.11